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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended) A system ~~device~~ for sending media session datagrams representing real time streaming media frames to a caller client independent of whether the caller client is served by a network address translation proxy, the system ~~device~~ comprising:

a directory server:

receiving a registration request ~~means for receiving a datagram~~ originated by the caller client ~~that includes an indicated network address and an indicated port number for receipt of the datagrams representing real time streaming media frames~~;

~~means for~~ extracting a source network address and a source port number from the ~~datagram originated by the client~~ registration request to identify an open signaling channel to the caller client from the directory server that can be reverse translated by the network address translation proxy;

receiving a media session signaling request originated by the caller client;

obtaining a real time protocol channel from a call control manager;

returning a response signal to the caller client on the open signaling channel, the response signal including the real time protocol channel of the call control manager; and

the call control manager:

providing the real time protocol channel to the directory server;

receiving a media session datagram from the caller client to the real time protocol channel;

extracting a source network address and a source port number from the media session datagram to identify an open media channel to the caller client

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from the call control manager that can be reverse translated by the network address translation proxy; and

relaying media session datagrams received from a callee client to the caller client on the open media channel. ~~means for comparing the indicated network address to the source network address;~~

~~means for addressing the datagrams representing real time streaming media frames to the source network address and source port number if the indicated network address and the source network address are not the same.~~

2.   (Currently Amended) The system ~~device~~ of claim 1, wherein the directory server further:

writes the extracted source network address and port number to an open signaling channel field of a client database;

periodically receives a UDP datagram comprising a ping message from the caller client; and

updates the network address and port number stored in the open signaling channel field in the client database to reflect a source network address and source port number extracted from the UDP datagram; and

returning the response signal to the caller client on the open signaling channel comprises looking up the network address and port number of the open signaling channel in the client database. ~~further comprising means for addressing the datagrams representing real time streaming media frames to the indicated network address and the indicated port number if the indicated network address and the source network address are the same.~~

3.   (Currently Amended) A system ~~device~~ for sending media session datagrams representing real time streaming frames to a caller client independent of whether the caller client is served by a network address translation proxy, the system ~~device~~ comprising:

a directory server:

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~~periodically~~ receiving a UDP datagram comprising a ping message from the caller client; ~~means for receiving a session set up datagram originated by the client that includes an indicated network address and an indicated port number for receipt of the datagrams representing real-time streaming media frames;~~

updating an open signaling channel field in a client database to reflect a source network address and a source port number extracted from the UDP datagram;

receiving a media session signaling request originated by the caller client;

obtaining a real time protocol channel from a call control manager;

returning a response signal to the caller client on the open signaling channel field associated with the caller client in the client database, the response signal including the real time protocol channel of the call control manager; and

the call control manager:

providing the real time protocol channel to the directory server;

receiving a media session datagram from the caller client to the real time protocol channel;

~~means for receiving a session datagram originated by the client that includes a real-time streaming media frame;~~

~~means for~~ extracting a source network address and a source port number from the session datagram ~~originated by the client;~~ to identify an open media channel to the caller client form the call control manager that can be reverse translated by the network address translation proxy; and

relaying media session datagram received from a callee client to the caller client on the open media channel.

~~means for comparing the indicated network address to the source network address;~~

~~means for addressing the datagrams representing real-time streaming media frames to the source network address and source port number if the indicated network address and the source network address are not the same.~~

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4.   (Canceled)

5.   (Currently Amended) A system device for sending media session datagrams representing real time streaming frames to a caller client independent of whether the caller client is served by a network address translation proxy, the system device comprising:

　　　　　a directory server:

　　　　　　　　receiving a registration request means for receiving a datagram originated by the caller client that includes an indicated network address and an indicated port number for receipt of the datagrams representing real time streaming media frames;

　　　　　　　　extracting a source network address and a source port number from the registration request;

　　　　　　　　if the extracted source network address matches a client network address of the registration request, , determining that the caller client is not served by a network address translation firewall and recording such determination in a client database;

　　　　　　　　if the extracted source network address is different than a client network address of the registration request, determining that the caller client is served by a network address translation firewall and recording the extracted source network address and source port number in the client database;

　　　　　　　　receiving a media session signaling request originated by the caller client;

　　　　　　　　obtaining a real time protocol channel from a call control manager;

　　　　　　　　returning a response signal to the caller client on the open signaling channel recorded in the client database, the response signal including:

　　　　　　　　　　the real time protocol channel of the call control manager if the record in the client database indicates that the caller client is served by a network address translation firewall; and

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a real time protocol channel of a callee client identified in the media session signaling request if the record in the client database indicates that the caller client is not served by a network address translation firewall; and

the call control manager:

providing the real time protocol channel of the call control manager to the directory server;

receiving a media session datagram addressed to the real time protocol channel of the call control manager by the caller client;

extracting a source network address and a source port number from the media session datagram to identify an open media channel to the caller client from the call control manager that can be reverse translated by the network address translation proxy; and

relaying media session datagrams received from the callee client to the caller client on the open media channel. ~~means for establishing a destination network address and destination port number for sending the datagrams representing real time streaming media frames to the client, the destination network address and destination port number:~~

~~being the indicated network address and the indicated port number respectively if the indicated network address matches a source network address extracted from the datagram; and~~

~~being a source network address and a source port number extracted from the datagram if the indicated network address does not match the source network address.~~

6.   (Currently Amended) A system ~~device~~ for sending media session datagrams representing real time streaming frames to a caller client independent of whether the caller client is served by a network address translation proxy, the system ~~device~~ comprising:

a directory server:

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receiving a registration request ~~means for receiving a session set up~~ datagram originated by the caller client ~~that includes an indicated network address and an indicated port number for receipt of the datagrams representing real time streaming media frames~~;

extracting a source network address and a source port number from the registration request;

if the extracted source network address matches a client network address of the registration request, determining that the caller client is not serviced by a network address translation firewall and recording such determination in a client database;

if the extracted source network address is different than a client network address of the registration request, determining that the caller client is served by a network address translation firewall and recording the extracted source network address and source port number in the client database as an open signaling channel to the caller client;

periodically receiving a UDP datagram comprising a ping message from the caller client;

updating the open signaling channel to the caller client in the client database to reflect a source network address and a source port number extracted from the UDP datagram;

receiving a media session signaling request originated by the caller client;

obtaining a real time protocol channel from a call control manager;

returning a response signal to the caller client on the open signaling channel recorded in the client database, the response signal including:

the real time protocol channel of the call control manager if the record in the client database indicates that the caller client is served by a network address translation firewall; and

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a real time protocol channel of a callee client identified in the
media session signaling request if the record in the client database indicates that
the caller client is not served by a network address translation firewall; and

the call control manager:

providing the real time protocol channel of the call control manager to
the directory server;

receiving a media session datagram addressed to the real time
protocol channel of the call control manager by the caller client;

extracting a source network address and a source port number from
the media session datagram to identify an open media channel to the caller client
from the call control manager that can be reverse translated by the network
address translation proxy; and

relaying media session datagrams received from the callee client to
the caller client on the open media channel. ~~means for receiving a session~~
~~datagram originated by the client;~~

~~means for establishing a destination network address and destination port~~
~~number for sending the datagrams representing real time streaming media frames~~
~~to the client, the destination network address and destination port number:~~

~~being the indicated network address and the indicated port number~~
~~respectively if the indicated network address matches a source network~~
~~address extracted from the session datagram; and~~

~~being a source network address and a source port number extracted~~
~~from the datagram if the indicated network address does not match the~~
~~source network address extracted from the session datagram.~~

7.   (Canceled)

8.   (Currently Amended) A method for sending media session datagrams
representing real time streaming frames to a caller client independent of whether

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the caller client is served by a network address translation proxy, the method comprising:

operating a directory server for:

receiving a registration request datagram originated by the caller client that includes an indicated network address and an indicated port number for receipt of the datagrams representing real time streaming media frames;

extracting a source network address and a source port number from the registration request to identify an open signaling channel to the caller client from the directory server that can be reverse translated by the network address translation proxy; datagram originated by the client;

receiving a media session signaling request originated by the caller client;

obtaining a real time protocol channel from a call control manager;

returning a response signal to the caller client on the open signaling channel, the response signaling including the real time protocol channel of the call control manager; and

operating the call control manager for:

providing the real time protocol channel to the directory server;

receiving a media session datagram from the caller client to the real time protocol channel;

extracting a source network address and a source port number from the media session datagram to identify an open media channel to the caller client from the call control manager that can be reverse translated by the network address translation proxy; and

relaying media session datagrams received from a callee client to the caller client on the open media channel.

comparing the indicated network address to the source network address;

addressing the datagrams representing real time streaming media frames to the source network address and source port number if the indicated network address and the source network address are not the same.

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9.   (Currently Amended) The method of claim 8, <u>wherein the directory server further:</u>

<u>writes the extracted source network address and port number to an open signaling channel field of a client database;</u>

<u>periodically receives a UDP datagram comprising a ping message from the caller client; and</u>

<u>updates the network address and port number stored in the open signaling channel field in the client database to reflect a source network address and source · port number extracted from the UDP datagram; and</u>

<u>returning the response signal to the caller client on the open signaling channel comprises looking up the network address and port number of the open signaling channel in the client database.</u> ~~further comprising addressing the datagrams representing real time streaming media frames to the indicated network address and the indicated port number if the indicated network address and the source network address are the same.~~

10.   (Currently Amended) A method for sending <u>media session</u> datagrams representing real time streaming frames to a <u>caller</u> client independent of whether the <u>caller</u> client is served by a network address <u>translation</u> proxy, the method comprising:

<u>operating a directory server for:</u>

<u>periodically</u> receiving a <u>UDP datagram comprising a ping message from the caller client;</u> ~~session set-up datagram originated by the client that includes an indicated network address and an indicated port number for receipt of the datagrams representing real time streaming media frames;~~

<u>updating an open signaling channel field in a client database to reflect a source network address and a source port number extracted from the UDP datagram;</u>

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receiving a media session signaling request originated by the caller client;

obtaining a real time protocol channel from a call control manager;

returning a response signal to the caller client on the open signaling channel associated with the caller client in the client database the response signal including the real time protocol channel of the call control manager; and

operating the call control manager for:

providing the real time protocol channel to the directory server;

receiving a media session datagram originated by the caller client that includes a real time streaming media frame;

extracting a source network address and a source port number from the media session datagram originated by the client to identify an open media channel to the caller client from the call control manager that can be reverse translated by the network address translation proxy; and

relaying media session datagrams received from a callee client to the caller client on the open media channel.

~~comparing the indicated network address to the source network address;~~

~~addressing the datagrams representing real time streaming media frames to the source network address and source port number if the indicated network address and the source network address are not the same.~~

11.   (Canceled)

12.   (Currently Amended) A method for sending media session datagrams representing real time streaming frames to a caller client independent of whether the caller client is served by a network address translation proxy, the method comprising:

operating a directory server for:

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receiving a <u>registration request</u> datagram originated by the <u>caller</u> client ~~that includes an indicated network address and an indicated port number for receipt of the datagrams representing real time streaming media frames~~;

<u>extracting a source network address and a source port number from the registration request datagram;</u>

<u>if the extracted source network address matches a client network address of the registration request, , determining that the caller client is not served by a network address translation firewall and recording such determination in a client database;</u>

<u>if the extracted source network address is different than a client network address of the registration request, determining that the caller client is served by a network address translation firewall and recording the extracted source network address and source port number in the client database;</u>

<u>receiving a media session signaling request originated by the caller client;</u>

<u>obtaining a real time protocol channel from a call control manager;</u>

<u>returning a response signal to the caller client on the open signaling channel recorded in the client database, the response signal including:</u>

<u>the real time protocol channel of the call control manager if the record in the client database indicates that the caller client is served by a network address translation firewall; and</u>

<u>a real time protocol channel of a callee client identified in the media session signaling request if the record in the client database indicates that the caller client is not served by a network address translation firewall; and</u>

<u>operating the call control manager for:</u>

<u>providing the real time protocol channel of the call control manager to the directory server;</u>

<u>receiving a media session datagram addressed to the real time protocol channel of the call control manager by the caller client;</u>

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extracting a source network address and a source port number from the media session datagram to identify an open media channel to the caller client from the call control manager that can be reverse translated by the network address translation proxy; and

relaying media session datagrams received from the callee client to the caller client on the open media channel. ~~establishing a destination network address and destination port number for sending the datagrams representing real time streaming media frames to the client, the destination network address and destination port number:~~

~~being the indicated network address and the indicated port number respectively if the indicated network address matches a source network address extracted from the datagram; and~~

~~being a source network address and a source port number extracted from the datagram if the indicated network address does not match the source network address.~~

13.   (Currently Amended) A method for sending media session datagrams representing real time streaming frames to a caller client independent of whether the caller client is served by a network address translation proxy, the method comprising:

operating a directory server for:

receiving a registration request ~~session set-up~~ datagram originated by the caller client ~~that includes an indicated network address and an indicated port number for receipt of the datagrams representing real time streaming media frames;~~

extracting a source network address and a source port number from the registration request;

if the extracted source network address matches a client network address of the registration request, determining that the caller client is not

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serviced by a network address translation firewall and recording such determination in a client database;

if the extracted source network address is different than a client network address of the registration request, determining that the caller client is served by a network address translation firewall and recording the extracted source network address and source port number in the client database as an open signaling channel to the caller client;

periodically receiving a UDP datagram comprising a ping message from the caller client;

updating the open signaling channel to the caller client in the client database to reflect a source network address and a source port number extracted from the UDP datagram;

receiving a media session signaling request originated by the caller client;

obtaining a real time protocol channel from a call control manager;

returning a response signal to the caller client on the open signaling channel recorded in the client database, the response signal including:

the real time protocol channel of the call control manager if the record in the client database indicates that the caller client is served by a network address translation firewall; and

a real time protocol channel of a callee client identified in the media session signaling request if the record in the client database indicates that the caller client is not served by a network address translation firewall; and

operating the call control manager for:

providing the real time protocol channel of the call control manager to the directory server;

receiving a media session datagram addressed to the real time protocol channel of the call control manager by the caller client;

extracting a source network address and a source port number from the media session datagram to identify an open media channel to the caller client

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from the call control manager that can be reverse translated by the network
address translation proxy; and

relaying media session datagrams received from the callee client to
the caller client on the open media channel. ~~receiving a session datagram
originated by the client;~~

~~establishing a destination network address and destination port number for
sending the datagrams representing real-time streaming media frames to the client,
the destination network address and destination port number:~~

~~being the indicated network address and the indicated port number
respectively if the indicated network address matches a source network
address extracted from the session datagram; and~~

~~being a source network address and a source port number extracted
from the datagram if the indicated network address does not match the
source network address extracted from the session datagram.~~

14.   (Canceled)

15.   (New) The system of claim 5, wherein, if the extracted source network
address is different than a client network address of the registration request, the
directory server further:

writes the extracted source network address and port number to an open
signaling channel field of a client database;

periodically receives a UDP datagram comprising a ping message from the
caller client; and

updates the network address and port number stored in the open signaling
channel field in the client database to reflect a source network address and source
port number extracted from the UDP datagram; and

returning the response signal to the caller client on the open signaling
channel comprises looking up the network address and port number of the open
signaling channel in the client database.

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16.   (New) The method of claim 12, wherein, if the extracted source network address is different than a client network address of the registration request, the directory server further:

writes the extracted source network address and port number to an open signaling channel field of a client database;

periodically receives a UDP datagram comprising a ping message from the caller client; and

updates the network address and port number stored in the open signaling channel field in the client database to reflect a source network address and source port number extracted from the UDP datagram; and

returning the response signal to the caller client on the open signaling channel comprises looking up the network address and port number of the open signaling channel in the client database.

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